

APPENDIX TO VERDICT FORM

1. In determining direct infringement, you are instructed that the following accused Bel

Fuse products directly infringe claim 1 of the '083 patent:

1. 07CM-20S12L
2. 07CM-36S10L
3. 07CM-38S10L
4. 07CR-12S12L
5. 07CR-18S08L
6. 07CR-25S10L
7. 0RCR-40S10(L/O)
8. S7CA-16S10L

2. Systems incorporating the following accused Bel Fuse bus converters directly infringe all of the asserted claims of the '190 patent, '021 patent, and '702 patents:

1. 07CM-20S12L
2. 07CM-36S10L
3. 07CM-38S10L
4. 07CR-12S12L
5. 07CR-15T08L
6. 07CR-18S08L
7. 07CR-25S10L
8. 0RCM-60S10(L/O)
9. 0RCR-40S10(L/O)
10. S7CA-08S12L

11. S7CA-16S10L

12. 42R8295 (Bel Fuse SRCA-16S10L)

3. The following accused Astec/Artesyn products have all of the limitations of claim 1 of the '083 patent except for: (1) the “DC-DC power converter” limitation required by the claim; and (2) the “a short time, during a transition between the portions, when the first controlled rectifier and the second controlled rectifier are both off and their corresponding uncontrolled rectifiers are both conducting” limitation recited in the claim. It is your job to determine if the following Astec/Artesyn products include these limitations:

1. Artesyn - TQN20A48S12

2. Astec - AEQ/ALQ42B50

4. The accused third-party systems incorporating the following Astec/Artesyn products include all of limitations required by claims 2, 8, and 19 of the '190 patent except a “DC power source.” It is your job to determine if the accused third-party products incorporating the following Astec/Artesyn products include the “DC power source” limitation of claims 2, 8, and 19 of the '190 patent.

Artesyn

1. IBC25AET4812 (claims 2 and 19 only)

2. IBC38AQT4812 (claims 2 and 19 only)

3. IBC60AQN4896 (claims 2 and 19 only)

4. TQN20A48S12

5. IBC32AEN4896 (claims 2 and 19 only)

Astec

1. AED/ALD17Q50

2. AEQ/ALQ42B50

5. The accused third-party systems incorporating the following Astec/Artesyn products include all of the limitations required by claim 10 of the '190 patent except a "DC power source" and the limitation requiring the output of the "isolation stage is about 12 volts." It is your job to determine if the accused third-party products incorporating the following Astec/Artesyn products include these limitations of claim 10 of the '190 patent.

Artesyn

1. IBC25AET4812
2. IBC38AQT4812
3. TQN20A48S12

Astec

1. AEQ/ALQ42B50

6. The accused third-party systems incorporating the following accused Astec/Artesyn products include all of the claim limitations of the asserted claims of the '021 patent except for: (1) the "a plurality of non-isolating regulation stages, each receiving the non-regulated output of the isolation stage and regulating a regulation stage output" limitation required by claims 21 and 30; (2) the "wherein the regulation stages are down converters" limitation recited in claim 21; and (3) the "wherein the regulation stage output is of a voltage level to drive logic circuitry" limitation recited in claim 30. It is your job to determine if the accused third-party systems incorporating the following Astec/Artesyn products include these limitations:

Artesyn

1. IBC25AET4812
2. IBC38AQT4812

3. IBC60AQN4896

4. TQN20A48S12

5. IBC32AEN4896

Astec

1. AED/ALD17Q50

2. AEQ/ALQ42B50

7. The accused third-party systems incorporating the following accused Astec/Artesyn products have all of the limitations of claim 56 and 71 of the '702 patent except for: (1) the “DC-DC power converter system” limitation required by claims 56 and 71; (2) the “rectified source of power that is a DC input” limitation required by claims 56 and 71; (3) the “c) plural non-isolating down-converter switching regulators, each receiving power from the non-regulated, isolated DC output and each providing one of the regulated DC outputs having a regulated voltage” limitation required by 56 and 71; and (4) the “a short time, during a transition between the portions, when the first controlled rectifier and the second controlled rectifier are both off and their corresponding uncontrolled rectifiers are both conducting” limitation required by claim 56. It is your job to determine if the accused third party systems incorporating the following Astec/Artesyn products include these limitations.

Artesyn

1. IBC25AET4812 (claim 71 only)

2. IBC38AQT4812 (claim 71 only)

3. IBC60AQN4896 (claim 71 only)

4. TQN20A48S12

5. IBC32AEN4896 (claim 71 only)

Astec

1. AED/ALD17Q50 (claim 71 only)
2. AEQ/ALQ42B50

7A. It is your job to determine if the accused third party systems incorporating the following Artesyn products include all of the limitations of claim 9 of the '034 patent.

Artesyn

1. IBC17AEW4812
2. IBC20AES4812
3. IBC28AQW4812
4. IBC30AQS4812
5. ATC210
6. ATC250
7. Compaq LB25
8. Compaq Vertical LB25
9. HP LB40
10. Sun LB40

8. The following accused Cherokee/Lineage products have all of the limitations of claim 1 of the '083 patent except for: (1) the "DC-DC power converter" limitation recited in the claim; and (2) the "a short time, during a transition between the portions, when the first controlled rectifier and the second controlled rectifier are both off and their corresponding uncontrolled rectifiers are both conducting" limitation recited in the claim. It is your job to determine if the following Cherokee/Lineage products include these limitations:

Cherokee

1. CBQ2548G1

2. CBQ4248G1
3. 165412-Y
4. SP628 (incorporating two CBQ2548G1N)
5. SP639 (incorporating two CBQ2548G1N)
6. SP664 (incorporating one CBQ2548G1N)
7. SP686 (incorporating one 165412-Y)
8. SP704 (incorporating one 165412-Y)

Lineage

1. EUE120B41
 2. EUE200B41
 3. EUK240S9R0
 4. QUK240S9R0
 5. SP735 (w/1 CBQ4248G1)
9. The accused third-party systems incorporating the following Cherokee/Lineage products include all of limitations required by claims 2, 8, and 19 of the '190 patent except a "DC power source." It is your job to determine if the accused third-party products incorporating the following Cherokee/Lineage products include the "DC power source" limitation of claims 2, 8, and 19 of the '190 patent

Cherokee

1. CBQ2548G1
2. CBQ4248G1
3. 165412-Y
4. SP628 (incorporating two CBQ2548G1N)
5. SP639 (incorporating two CBQ2548G1N)

6. SP664 (incorporating one CBQ2548G1N)
7. SP686 (incorporating one 165412-Y)
8. SP704 (incorporating one 165412-Y)

Lineage

1. QUK240S9R0
2. SP735 (incorporating one CBQ4248G1)

It is also up to you to determine whether the following Lineage products were integrated into third-party systems. If you find that they were, then those systems also include the same limitations recited herein as required by claims 2, 8, and 19. It is up to you to determine whether any such third-party systems include the remaining limitations of claims 2, 8, and 19.

1. EUE120B41
2. EUE200B41
3. EUK240S9R0

10. The accused third-party systems incorporating the following Cherokee/Lineage products include all of the limitations required by claim 10 of the '190 patent except a "DC power source" and the limitation requiring the output of the "isolation stage is about 12 volts." It is your job to determine if the accused third-party products incorporating the following Cherokee/Lineage products include these limitations of claim 10 of the '190 patent.

Cherokee

1. CBQ2548G1
2. CBQ4248G1
3. 165412-Y
4. SP628 (incorporating two CBQ2548G1N)

5. SP639 (incorporating two CBQ2548G1N)
6. SP664 (incorporating one CBQ2548G1N)
7. SP686 (incorporating one 165412-Y)
8. SP704 (incorporating one 165412-Y)

Lineage

1. SP735 (incorporating one CBQ4248G1)

It is also up to you to determine whether the following Lineage products were integrated into third-party systems. If you find that they were, then those systems also include the same limitations recited herein as required by claim 10. It is up to you to determine whether any such third-party systems include the remaining limitations of claim 10.

1. EUE120B41
2. EUE200B41

11. The accused third-party systems incorporating the following accused Cherokee/Lineage products include all of the claim limitations of the asserted claims of the '021 patent except for: (1) the “a plurality of non-isolating regulation stages, each receiving the non-regulated output of the isolation stage and regulating a regulation stage output” limitation required by claims 21 and 30; (2) the “wherein the regulation stages are down converters” limitation required by claim 21; and (3) the “DC power source provides a voltage within the range of 36 to 75 volts” limitation required by claim 30. It is your job to determine if the accused third-party systems incorporating the following Cherokee/Lineage products include these limitations:

Cherokee

1. CBQ2548G1
2. CBQ4248G1

3. 165412-Y
4. SP628 (incorporating two CBQ2548G1N)
5. SP639 (incorporating two CBQ2548G1N)
6. SP664 (incorporating one CBQ2548G1N)
7. SP686 (incorporating one 165412-Y)
8. SP704 (incorporating one 165412-Y)

Lineage

1. QUK240S9R0
2. SP735 (incorporating one CBQ4248G1)

It is also up to you to determine whether the following Lineage products were integrated into third-party systems. If you find that they were, then those systems also include the same limitations recited herein as required by claims 21 and 30. It is up to you to determine whether any such third-party systems include the remaining limitations of claims 21 and 30.

1. EUE120B41
2. EUE200B41
3. EUK240S9R0

12. The accused third-party systems incorporating the following accused Cherokee/Lineage products have all of the limitations of claim 56 and 71 of the '702 patent except for: (1) the “DC-DC power converter system” limitation required by claims 56 and 71; (2) the “rectified source of power that is a DC input” limitation required by claims 56 and 71; (3) the “c) plural non-isolating down-converter switching regulators, each receiving power from the non-regulated, isolated DC output and each providing one of the regulated DC outputs having a regulated

voltage” limitation required by claims 56 and 71; and (4) the “a short time, during a transition between the portions, when the first controlled rectifier and the second controlled rectifier are both off and their corresponding uncontrolled rectifiers are both conducting” limitation required by claim 56. It is your job to determine if the third-party systems incorporating these products include these limitations.

Cherokee

1. CBQ2548G1
2. CBQ4248G1
3. 165412-Y
4. SP628 (incorporating two CBQ2548G1N)
5. SP639 (incorporating two CBQ2548G1N)
6. SP664 (incorporating one CBQ2548G1N)
7. SP686 (incorporating one 165412-Y)
8. SP704 (incorporating one 165412-Y)

Lineage

1. QUK240S9R0
2. SP735 (incorporating one CBQ4248G1

It is also up to you to determine whether the following Lineage products were integrated into third-party systems. If you find that they were, then those systems also include the same limitations recited herein as required by claims 56 and 71. It is up to you to determine whether any such third-party systems include the remaining limitations of claims 56 and 71.

1. EUE120B41
2. EUE200B41
3. EUK240S9R0

13. The accused third-party systems incorporating the following accused Lineage products have all of the limitations of claim 9 of the '034 patent except for: (1) the “DC-DC power converter system” limitation required by claim 9; and (2) the “a control circuit that senses a voltage in the primary transformer winding circuit to provide a feedback control signal without bridging an isolation barrier between the primary and secondary transformer winding circuits, the feedback control signal controlling semi-regulation by control of duty cycle of a transistor in the primary transformer winding circuit” limitation required by claim 9. It is your job to determine if the accused third-party systems incorporating the following Lineage products include these limitations.

Lineage

1. QBE025A0B
2. QBK025A0B
3. QBW018A0B
4. QBW018A0B61-HTZ
5. QBK033A0B
6. QBW025A0B

It is also up to you to determine whether the following Lineage products were integrated into third-party systems. If you find that they were, then those systems also include the same limitations recited herein as required by claim 9. It is up to you to determine whether any such third-party systems include the remaining limitations of claim 9.

1. QBK020A0B
2. QSK033
3. QSW025

4. QSW033

14. The following accused Delta/MPS/Murata/Power-One products have all of the limitations of claim 1 of the '083 patent except for (1) the “DC-DC power converter” limitation recited in the claim; (2) the “at least one isolating step-down transformer that is not driven into saturation” limitation recited in the claim; and (3) the “a short time, during a transition between the portions, when the first controlled rectifier and the second controlled rectifier are both off and their corresponding uncontrolled rectifiers are both conducting” limitation recited in the claim. It is your job to determine if the following Delta/MPS/Murata/Power-One products include these limitations. In addition, these products must provide a “non-regulated” DC output as recited in the claim to infringe.

Delta

1. E48SB12020xxxx
2. Q48SB12020xRxx
3. Q48SB12025xxxx
4. Q48SB12040xxxx
5. Q48SB9R650xxxx
6. DPSN-470AP (incorporating one Q48SB12020-NRFE)

MPS

7. EUS15-120
8. EUS20-120
9. EUS25-096
10. EUS30-080
11. EUS34-096

12. QUS40-096

Murata

13. MPDNB001S

Power-One

14. QTS48T25120

15. QTS48T38096

16. QTS48T46096

17. QTS48T67096

18. SQT48T20120

19. SQT48T27096

20. SQT48T38096

15. The accused third-party systems incorporating the following Delta/MPS/Murata/Power-One products include all of the limitations required by claims 2, 8, and 19 of the '190 patent except the limitation requiring a "DC power source." It is your job to determine if the accused third-party systems incorporating the following Delta/MPS/Murata/Power-One products include this limitation of claims 2, 8, and 19 of the '190 patent.

Delta

1. E48SB12020xxxx

2. Q48SB12020xRxx
3. Q48SB12025xxxx
4. Q48SB9R650xxxx
5. DPSN-470AP (incorporating one Q48SB12020-NRFE)

MPS

6. EUS15-120
7. EUS20-120
8. EUS25-096
9. EUS30-080
10. EUS34-096
11. QUS20-120 (claims 2 and 19 only)
12. QUS28-096-NHBR (claims 2 and 19 only)
13. QUS40-096

Murata

14. MPDNB001S-Y

Power-One

15. QTS48T25120
16. QTS48T38096
17. QTS48T45080
18. QTS48T46096
19. QTS48T67096 (claims 2 and 19 only)
20. SQT48T20120
21. SQT48T27096

22. SQT48T38096

It is also up to you to determine whether the following Delta/MPS/Murata/Power-One products were integrated into third-party systems. If you find that they were, then those systems also include the same limitations recited herein as required by claims 2, 8, and 19. It is up to you to determine whether any such third-party systems include the remaining limitations of claims 2,8, and 19.

1. Delta - Q48SB12020NRFH
2. MPS - QBC-12/22-L48
3. Murata - MPDNB001S
4. Power-One QTS48T45080

16. The accused third-party systems incorporating the following Delta/MPS/Murata/Power-One products include all of the limitations required by claim 10 of the '190 patent except the limitation requiring a "DC power source." It is your job to determine if the accused third-party systems incorporating the following Delta/MPS/Murata/Power-One products include this limitation of claim 10 of the '190 patent.

Delta

1. E48SB12020xxxx
2. Q48SB12020xRxx
3. Q48SB12025xxxx
4. DPSN-470AP (incorporating one Q48SB12020-NRFE)

MPS

5. EUS15-120
6. EUS20-120
7. QUS20-120

Power-One

8. QTS48T25120
9. SQT48T20120

It is also up to you to determine whether the following Delta/MPS/Murata/Power-One products were integrated into third-party systems. If you find that they were, then those systems also include the same limitations recited herein as required by claim 10. It is up to you to determine whether any such third-party systems include the remaining limitations of claim 10.

1. Delta - Q48SB12020NRFH
2. MPS - QBC-12/22-L48

17. The accused third-party systems incorporating the following Delta/MPS/Murata/Power-One products include all of the limitations of the asserted claims of the '021 patent except the limitations "providing a normally non-regulated output of the isolation stage" and the limitation requiring a "DC power source." It is your job to determine if the accused third-party systems incorporating the following Delta/MPS/Murata/Power-One products include these limitations:

Delta

1. E48SB12020xxxx
2. Q48SB12020xRxx
3. Q48SB12025xxxx
4. Q48SB9R650xxxx
5. DPSN-470AP (incorporating one Q48SB12020-NRFE)

MPS

6. EUS15-120
7. EUS20-120
8. EUS25-096
9. EUS30-080
10. EUS34-096
11. QUS20-120
12. QUS28-096-NHBR
13. QUS40-096

Murata

14. MPDNB001S-Y

Power-One

15. QTS48T25120
16. QTS48T38096
17. QTS48T46096
18. QTS48T67096
19. SQT48T20120

20. SQT48T27096

21. SQT48T38096

It is also up to you to determine whether the following Delta/MPS/Murata/Power-One products were integrated into third-party systems. If you find that they were, then those systems also include the same limitations recited herein as required by all of the asserted claims of the '021 patent. It is up to you to determine whether any such third-party systems include the remaining limitations of all of the asserted claims of the '021 patent.

1. MPS - QBC-12/22-L48
2. Murata - MPDNB001S
3. Power-One QTS48T45080

18. The accused third-party systems incorporating the following Delta/MPS/Murata/Power-One products include all of the limitations of claim 56 and 71 of the '702 patent except for: (1) the “rectified source of power that is a DC input” limitation required by claims 56 and 71; (2) the “the non-regulating isolating step-down converter providing a non-regulated, isolated DC output having a non-regulated voltage” limitation required by in claims 56 and 71; and (3) the “at least one transformer that is not driven into saturation” limitation required by claims 56 and 71. It is your job to determine if the accused third-party systems incorporating the following Delta/MPS/Murata/Power-One products include these limitations.

Delta

1. E48SB12020xxxx
2. Q48SB12020xRxx
3. Q48SB12025xxxx

4. Q48SB12040xxxx
5. Q48SB9R650xxxx
6. DPSN-470AP (incorporating one Q48SB12020-NRFE)

MPS

7. EUS15-120
8. EUS20-120
9. EUS25-096
10. EUS30-080
11. EUS34-096
12. QUS20-120 (claim 71 only)
13. QUS28-096-NHBR (claim 71 only)
14. QUS40-096

Murata

15. MPDNB001S-Y

Power-One

16. QTS48T25120
17. QTS48T38096
18. QTS48T46096
19. QTS48T67096
20. SQT48T20120
21. SQT48T27096
22. SQT48T38096

It is also up to you to determine whether the following Delta/MPS/Murata/Power-One products were integrated into third-party systems. If you find that they were, then those systems also include the same limitations recited herein as required by claims 56 and 71. It is up to you to determine whether any such third-party systems include the remaining limitations of claims 56 and 71.

1. Delta - Q48SB12020NRFH
2. Murata - MPDNB001S

19. It has been determined that the following products sold by Delta and Power One include the following limitations required by claim 9 of the '034 patent if such products are incorporated into third party systems: "isolation/semi-regulation circuitry comprising: a primary transformer winding circuit having at least one primary winding; a secondary transformer winding circuit having at least one secondary winding coupled to at least one primary winding and having plural controlled rectifiers, each having a parallel uncontrolled rectifier; and a control circuit that senses a voltage in the primary transformer winding circuit to provide a feedback control signal without bridging an isolation barrier between the primary and secondary transformer winding circuits, the feedback control signal controlling semi-regulation by control of duty cycle of a transistor in the primary transformer winding circuit; and an output of the isolation/semi-regulation circuitry whose voltage value drops due to impedance of an output path." It is up to you to determine whether any of the following products sold by Delta and Power One were incorporated into third party systems and, if so, whether the remaining limitations of claim 9 of the '034 patent are satisfied.

Delta

1. Q48SH12025

2. Q48SH12033

Power-One

3. QKS48T21120